

Amendment
U.S. Patent Application Serial No. 09/810,452

REMARKS

Claims 1, 8, 10, 11, 15, 21, 27, 30, 31, 32 and 33 have been amended.

Claims 1 – 37 are present in the subject application.

In the Office Action dated February 22, 2005, the Examiner has allowed claims 17 – 29 and 33 – 37, has objected to claims 10, 11 and 15 as being dependent upon a rejected base claim, has objected to the disclosure, has rejected claims 1, 2, 4, 7 – 9 and 30 – 32 under 35 U.S.C. §102(b) and has rejected claims 3, 5, 6, 12 – 14 and 16 under 35 U.S.C. §103(a). Favorable reconsideration of the subject application is respectfully requested in view of the following remarks.

Applicants gratefully acknowledge the allowance of claims 17 – 29 and 33 – 37. Claim 33 has been slightly amended to further clarify the claimed invention, while claims 21 and 27 have been amended to correct minor typographical errors. In addition, the Examiner has objected to claims 10, 11 and 15 as being dependent upon a rejected base claim. The Examiner further indicated that these claims would be allowable if rewritten in independent form. Accordingly, claims 10, 11 and 15 have been rewritten in independent form and are considered to be in condition for allowance.

The Examiner has objected to the disclosure due to informalities. In particular, the Examiner is requesting the status to be provided for a U.S. Patent Application mentioned in the specification. Accordingly, the specification has been amended to include the status of the recited patent application without introducing new matter and is considered to overcome the objection.

The Examiner has rejected claims 1, 2, 4, 7 – 9 and 30 – 32 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,517,497 (Le Boudec et al.). Briefly, the present invention is directed toward an improved user data protocol involving a multi-addressing capability that allows a user at a source node to address a single message to many users at respective destination nodes

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within a communication network. The multi-address messages that are provided to the network are inserted once at the source node, and messages routed between network nodes going to the same next node travel once across each interconnecting communication channel, thereby minimizing the communication bandwidth consumed.

The Examiner takes the position that the Le Boudec et al. patent discloses all the features within these claims.

This rejection is respectfully traversed since the Le Boudec et al. patent does not disclose, teach or suggest the feature of a transmission frame including a plurality of addresses identifying a plurality of destination nodes or terminals as recited in the claims. However, in order to expedite prosecution of the subject application, independent claims 1, 30 and 31 have been amended to further clarify these features. In particular, independent claim 1 has been amended and recites the features of a plurality of destination node addresses each identifying a different final destination in the plurality of interconnected communication networks to receive the frame to facilitate transmission of the frame to different destination nodes. Independent claim 30 has been amended and recites the features of generating a message for delivery to a plurality of destination terminals in the interconnecting networks each serving as a final destination for the message; generating a transmission frame having a message and a header containing addresses each identifying a different one of the plurality of destination terminals to receive the message; and transmitting the transmission frame to a communication node in one of the interconnected networks for routing to each of the different destination terminals identified by the addresses. Independent claim 31 has been amended and recites the features of generating a message for delivery to the terminals each serving as a final destination for the message; generating a header containing a plurality of addresses each identifying

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a different one of the terminals to receive the message; and transmitting the transmission frame including the header and the message to a communication node for routing to each of the different address terminals. Dependent claims 8 and 32 have been amended to correct minor typographical errors.

The Le Boudec et al. patent does not disclose, teach or suggest these features. Rather, the Le Boudec et al. patent discloses a connectionless transfer mode for a system using an Asynchronous Transfer Mode (ATM) for data transfers (e.g., See Abstract). ATM systems transfer information in small fixed-size packets termed cells. The basic format of an ATM cell is disclosed by the Le Boudec et al. patent in Fig. 2A (e.g., See Fig. 2A and Column 3, lines 33 – 35). Usually, data are transferred through the network in a connection-oriented mode, where a connection is set up in advance and identified by a Virtual Path Identifier (VPI) and a Virtual Circuit Identifier (VCI) carried in the header of each cell. The VPI is a principal path defined between two switching nodes and the VCI is one specific connection on the respective path. The VPI and VCI are used by switching nodes for routing the cell to its destination (e.g., See Column 3, lines 52 – 67). Thus, the connection-oriented mode utilizes virtual path and circuit identifiers within cells for use by switching nodes to route the cells to their destination, as opposed to a transmission frame including a plurality of addresses each identifying a different final destination node or terminal to receive the frame or message as recited in the independent claims.

The Le Boudec et al. patent further discloses a prior proposed connectionless service reserving one specific virtual connection for connectionless services. If a user terminal wants to send a message to another user in a connectionless mode, it inserts into the headers of the cells to be transmitted the VPI/VCI reserved for connectionless services. Furthermore, the first cell of the

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message cell sequence includes a destination address. The cell format modified for connectionless service is illustrated in Fig. 2B of the Le Boudec et al. patent and includes VPI/VCI information and additional information (e.g., See Fig. 2B and Column 4, lines 12 – 18 and 25 – 39). Thus, this connectionless service employs a destination address in a first cell of a message cell sequence and virtual path and circuit identifiers within each cell for use by switching nodes to route the cells to their destination. There is no disclosure, teaching or suggestion of this service employing a transmission frame including a plurality of addresses each identifying a different final destination node or terminal to receive the frame or message as recited in the independent claims.

In addition, the Le Boudec et al. patent discloses use of a routing-identifier and a procedure that allows faster and simpler connectionless services. In particular, each user terminal is attached to a switching node, where a switching node allocates a unique routing identifier to a user terminal in response to receiving a request. The routing-identifier when inserted into a cell destined for a user terminal enables each switching node to correctly route the cell to its destination (e.g., See Column 4, lines 47 – 59). The sending terminal sends each cell for the message indicating connectionless service (e.g., by inserting a respective code in the VPI field) and with the VCI field carrying the routing identifier of the destination terminal (e.g., See Column 5, lines 32 – 35). The routing-identifier includes two portions, namely a portion to identify the switching node associated with the user terminal allocated to the routing-identifier and a port within the destination switching node to which the destination terminal is attached (e.g., See Column 5, lines 47 – 49 and 55 – 57). Thus, this connectionless service uses a routing-identifier that identifies a switching node and the particular port of a switching node to reach a destination site for the message. There is no disclosure, teaching or suggestion of the service employing a transmission frame including a plurality of addresses each

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identifying a different final destination or terminal to receive the frame or message as recited in the independent claims.

Since the Le Boudec et al. patent does not disclose, teach or suggest the features recited in independent claims 1, 30 and 31 as discussed above, these claims are considered to be in condition for allowance.

Claims 2, 4, 7 – 9 and 32 depend, either directly or indirectly, from independent claims 1 or 31 and, therefore, include all the limitations of their parent claims. These claims are considered to be in condition for allowance for substantially the same reasons discussed above in relation to their parent claims and for further limitations recited in the dependent claims.

The Examiner has rejected claims 3, 5, 6, 12 – 14 and 16 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,517,497 (Le Boudec et al.) in view of U.S. Patent No. 6,466,608 (Hong et al.). Briefly, the present invention is directed toward an improved user data protocol including a multi-addressing capability as described above.

The Examiner takes the position that the Le Boudec et al. patent discloses all the subject matter of the claimed invention except for a number hop indicator indicating the number of transmissions of the message across the interconnections network. The Examiner further alleges that the Hong et al. patent discloses this feature and that it would have been obvious to combine the teachings of the Hong et al. and Le Boudec et al. patents to attain the claimed invention.

This rejection is respectfully traversed. Initially, claims 3, 5, 6, 12 – 14 and 16 depend, either directly or indirectly, from independent claim 1 and, therefore, include all the limitations of their parent claim. As discussed above, the Le Boudec et al. patent does not disclose, teach or suggest a transmission frame including a plurality of destination node addresses each identifying a different

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final destination to receive the frame as recited in the claims. The Hong et al. patent does not compensate for the deficiencies of the Le Boudec et al. patent and similarly does not disclose, teach or suggest these features. Rather, the Hong et al. patent is directed to providing frequency hopping medium access control among a plurality of nodes in a wireless communication system and to decentralized control of synchronization among the plural nodes. A node used to control synchronization of the communication system can switch from a first master node to a second master node (e.g., See Abstract).

Since the Le Boudec et al. and Hong et al. patents do not disclose, teach or suggest, either alone or in combination, the features recited in claims 3, 5, 6, 12 – 14 and 16 as discussed above, these claims are considered to be in condition for allowance.

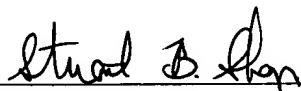
In addition to the foregoing, there is no apparent reason or motivation to combine the teachings of the Le Boudec et al. and Hong et al. patents. In particular, the Le Boudec et al. patent is directed toward a connectionless transfer mode for a system utilizing ATM for data transfers as described above, while the Hong et al. patent is directed toward providing frequency hopping medium access control and decentralized control of synchronization among a plurality of nodes in a wireless frequency hopping communication system as described above. Thus, the patents are directed toward diverging applications and there is no apparent reason, motivation or suggestion to combine their teachings absent prohibited hindsight derived from Applicants' own disclosure. Accordingly, the proposed combination of the Le Boudec et al. and Hong et al. patents does not render the claimed invention obvious.

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The application, having been shown to overcome issues raised in the Office Action, is considered to be in condition for allowance and a Notice of Allowance is earnestly solicited.

Respectfully submitted,



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